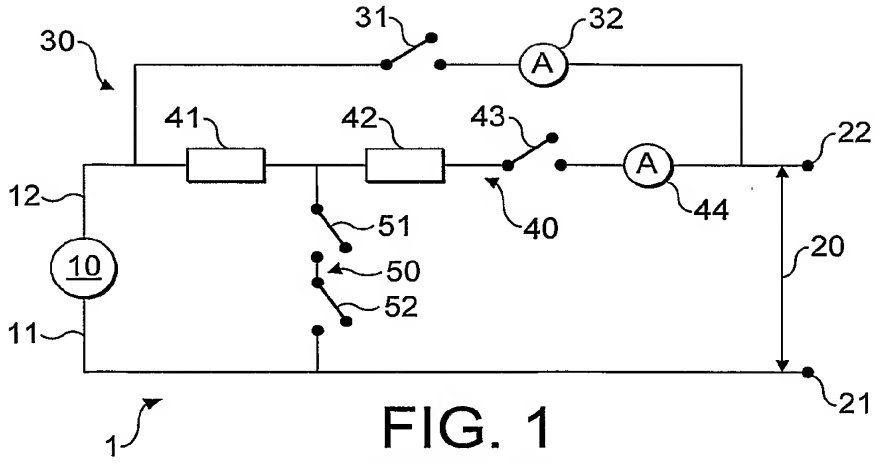

FIG. 1
PRIOR ART

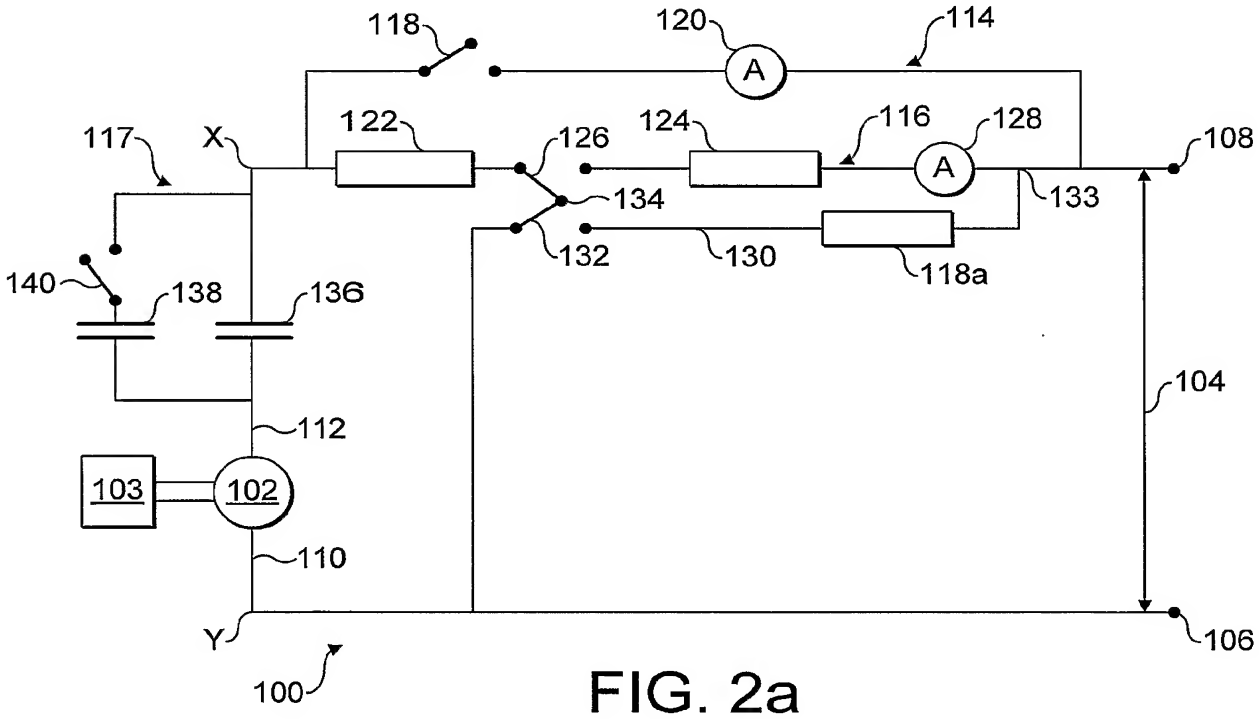

FIG. 2a

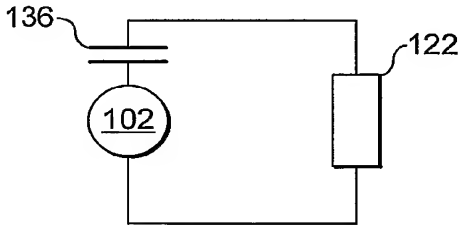

FIG. 2b

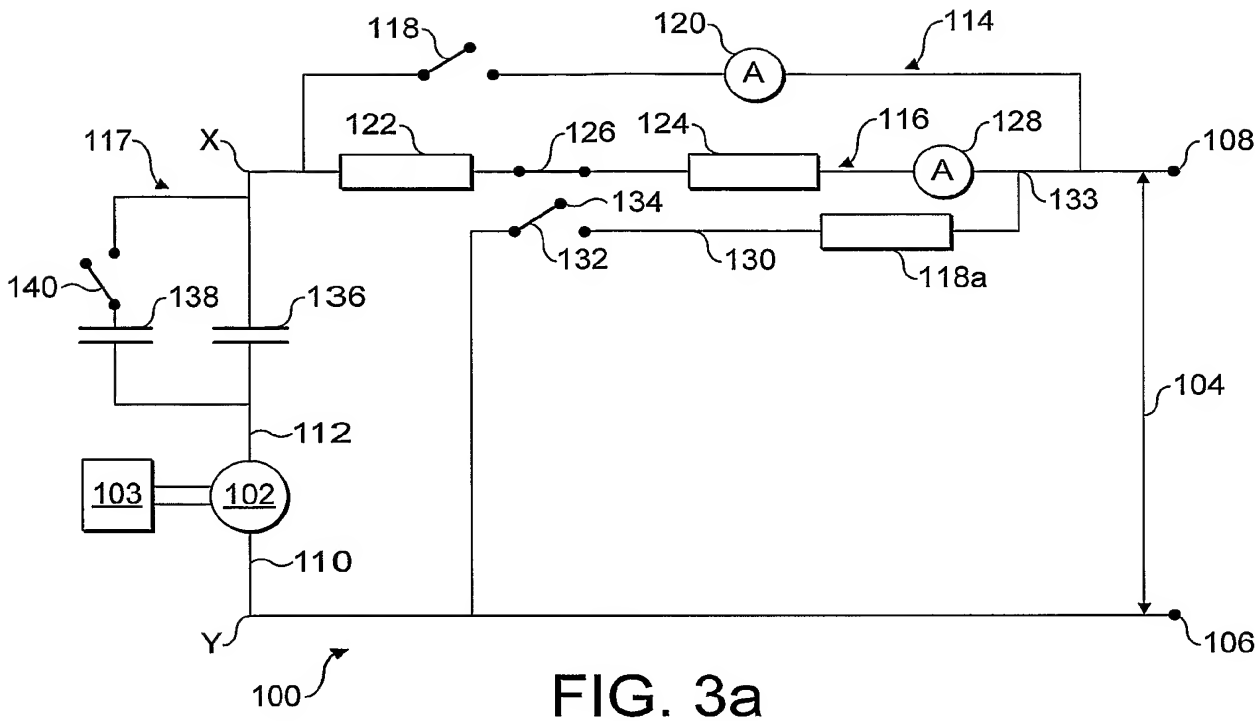
118
120
A
114
117
X
122
126
124
116
128
A
108
134
133
132
130
118a
140
138
136
104
112
103
102
110
Y
106
100

FIG. 3a

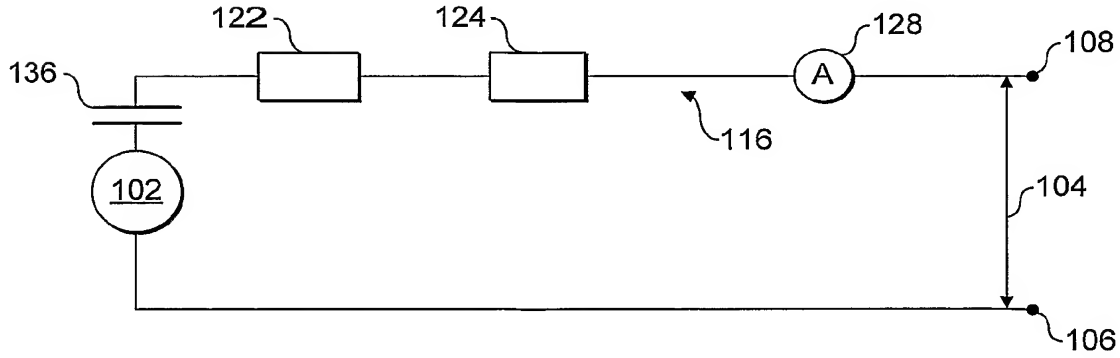
122
124
128
108
136
A
116
102
104
106

FIG. 3b

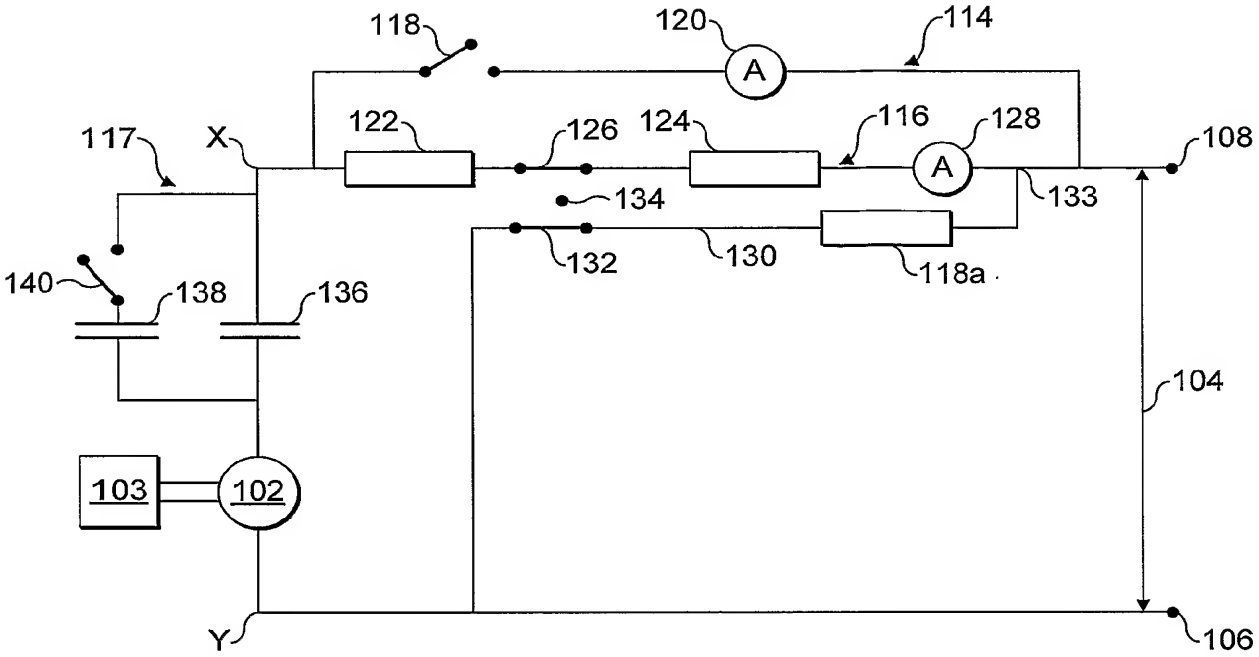
118
120
A
114
117
X
122
126
124
116
128
A
108
134
133
140
138
136
132
130
118a
104
103
102
Y
106

FIG. 4a

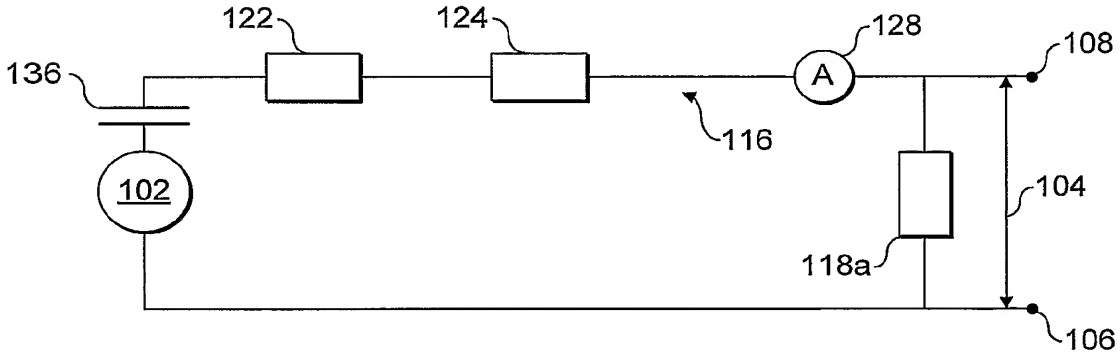
122
124
128
108
136
A
116
102
104
118a
106

FIG. 4b

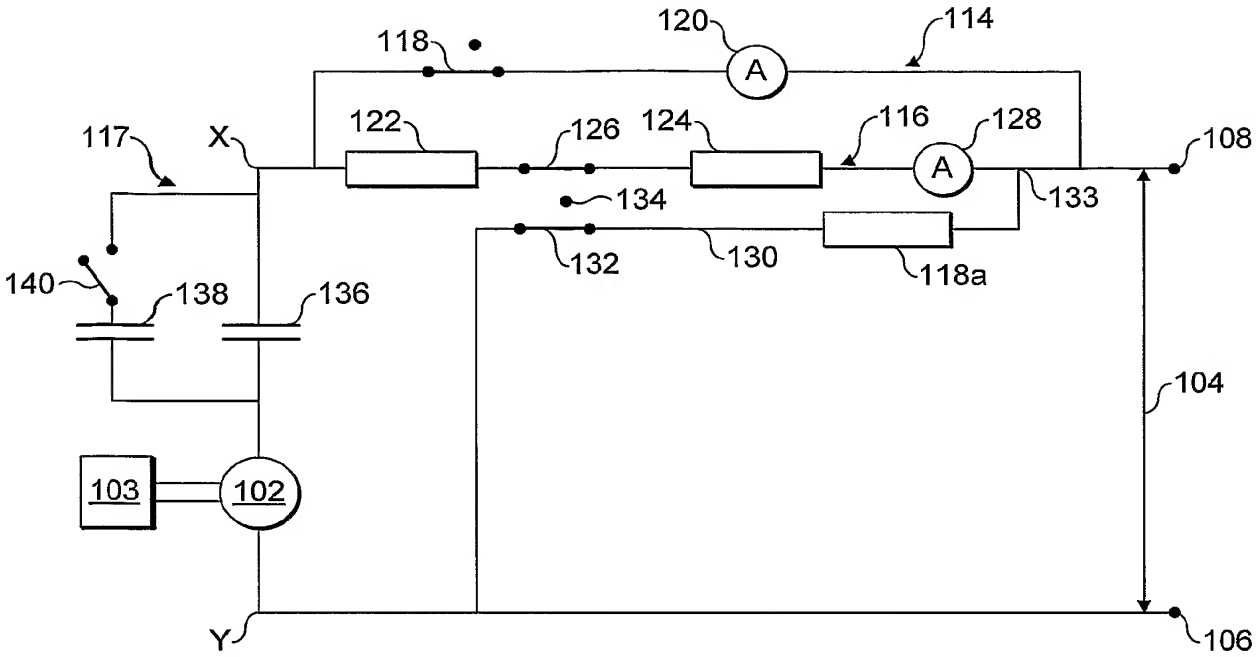
118
120
A
114
117
X
122
126
124
116
128
A
108
134
133
132
130
118a
140
138
136
104
103
102
Y
106

FIG. 5a

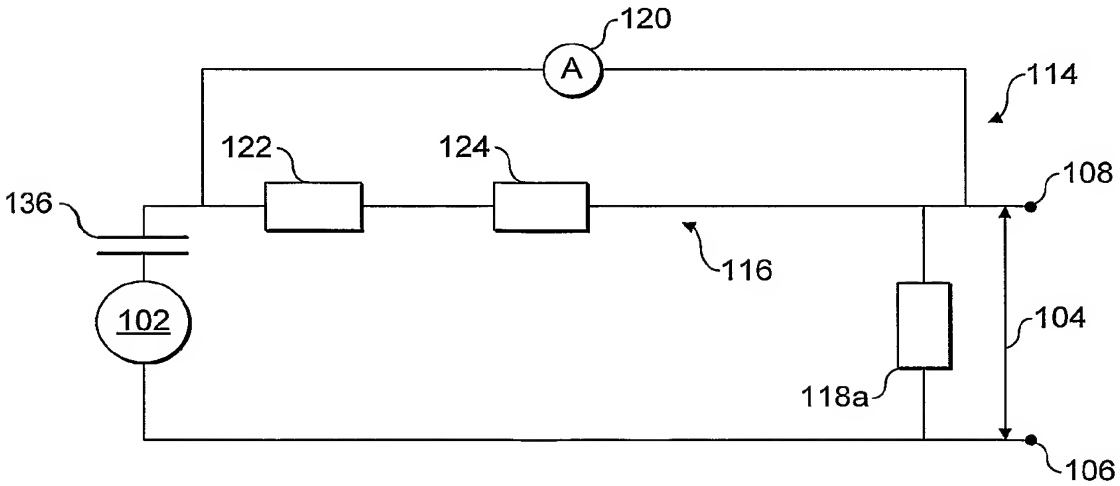
120
A
114
122
124
108
136
116
102
104
118a
106

FIG. 5b

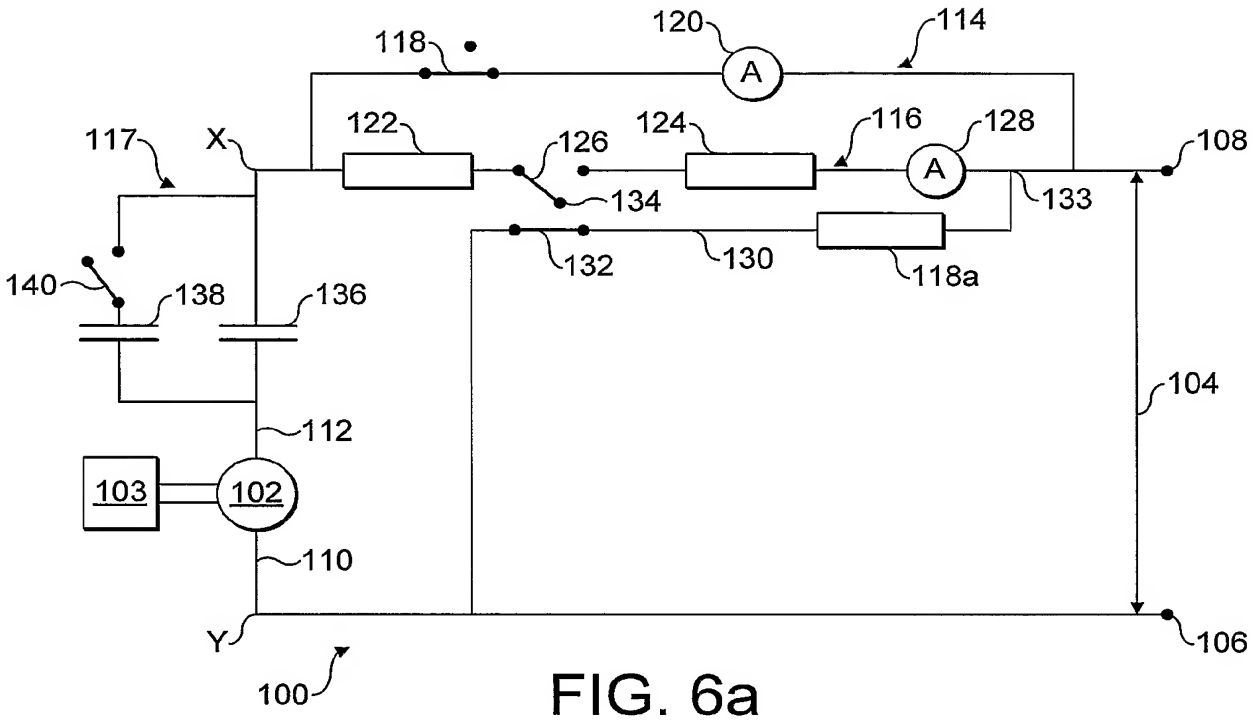
118
120
A
114
117
X
122
126
124
116
128
A
108
134
133
132
130
118a
140
138
136
104
112
103
102
110
Y
106
100

FIG. 6a

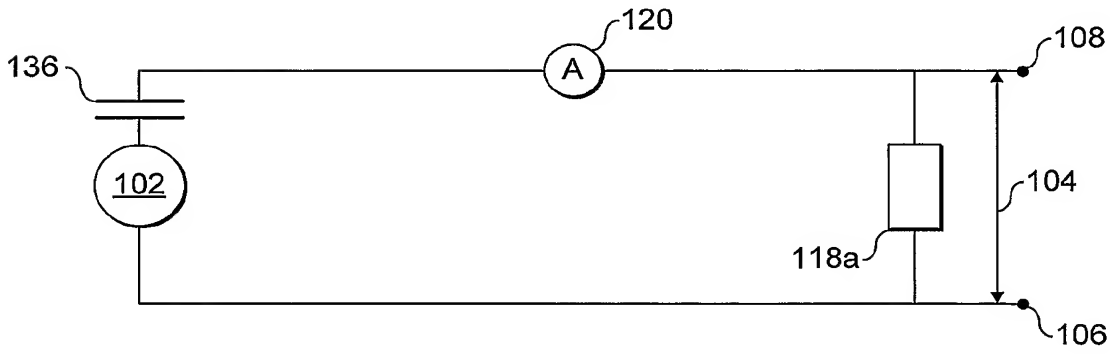
120
A
108
136
102
104
118a
106

FIG. 6b

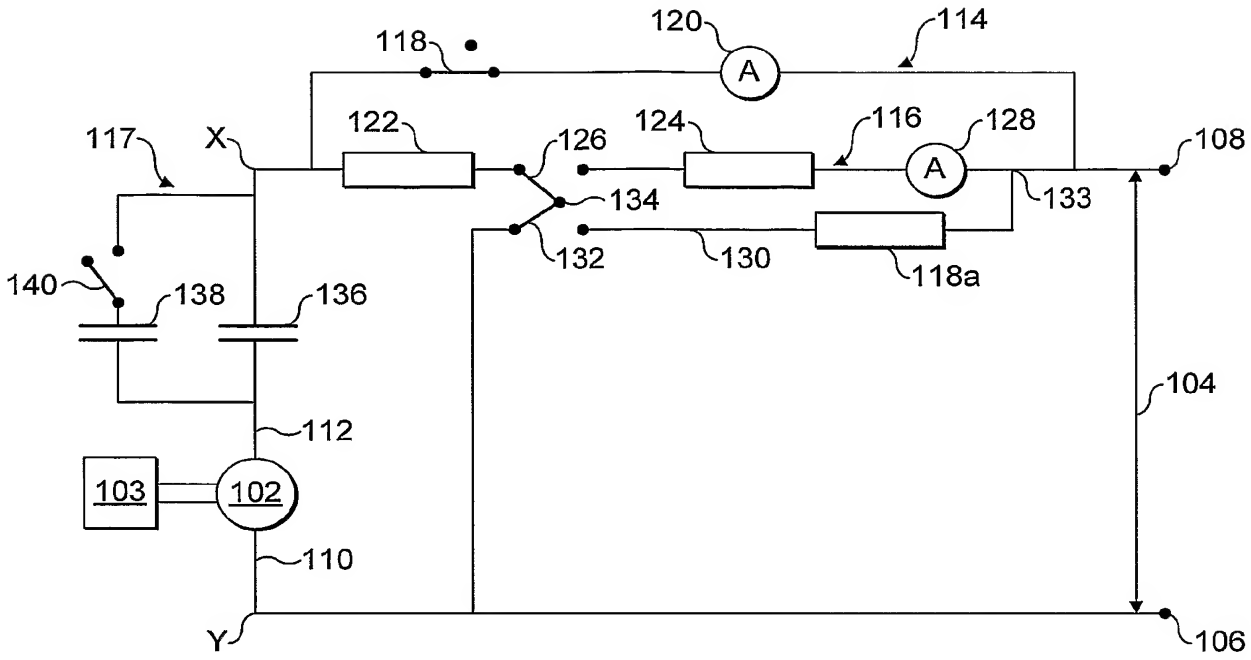
118
120
A
114
117
X
122
126
124
116
128
A
108
134
133
132
130
118a
140
138
136
104
112
103
102
110
Y
106

FIG. 7a

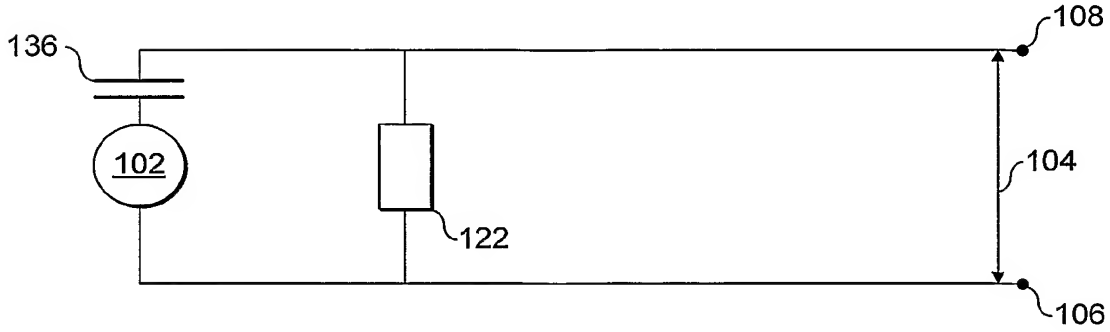
136
108
102
104
122
106

FIG. 7b

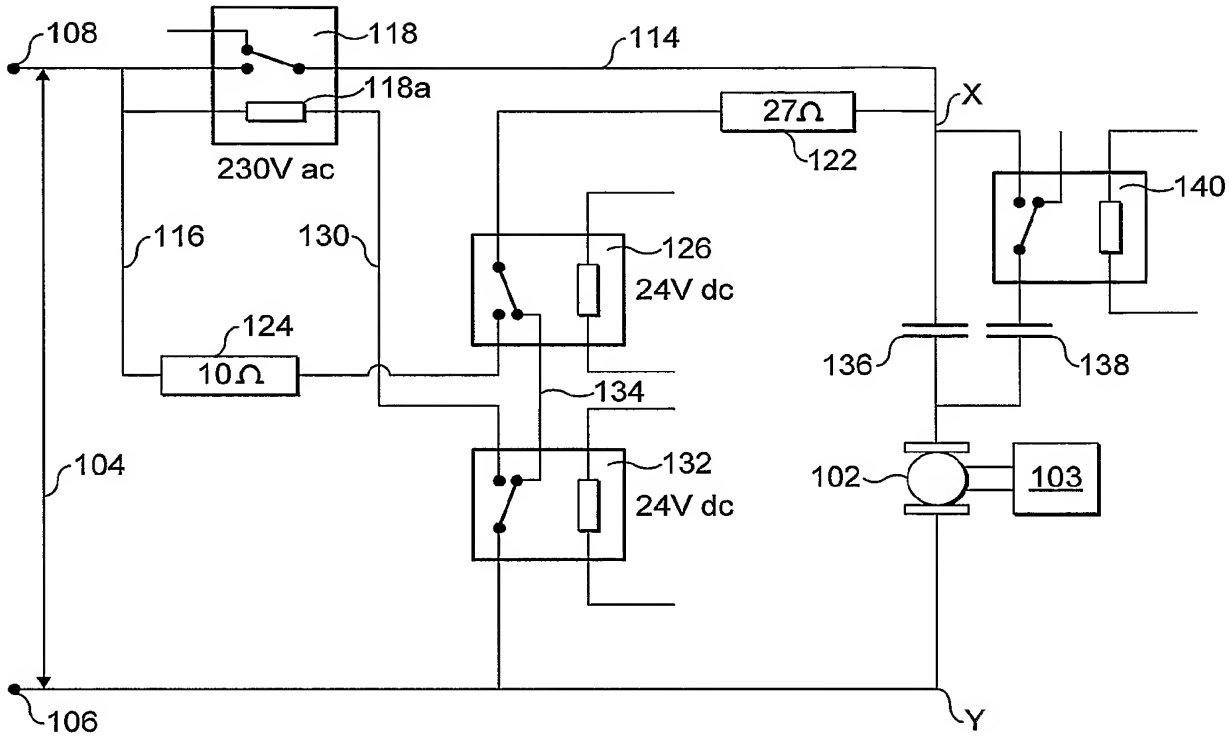
108
118
114
118a
27Ω
X
230V ac
122
140
116
130
126
24V dc
124
10Ω
136
138
134
104
132
24V dc
102
103
106
Y

FIG. 8

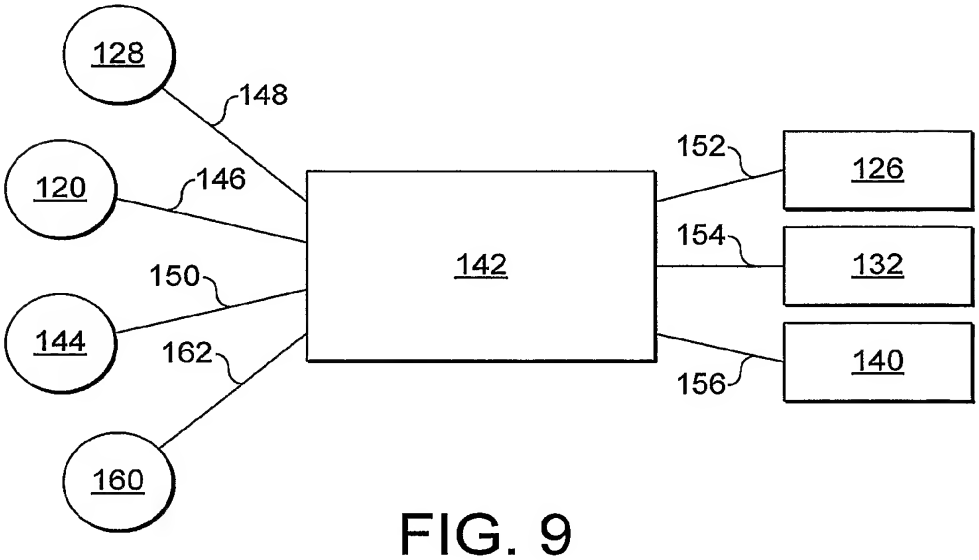
128
148
120
146
152
126
142
154
132
150
144
162
140
156
160

FIG. 9

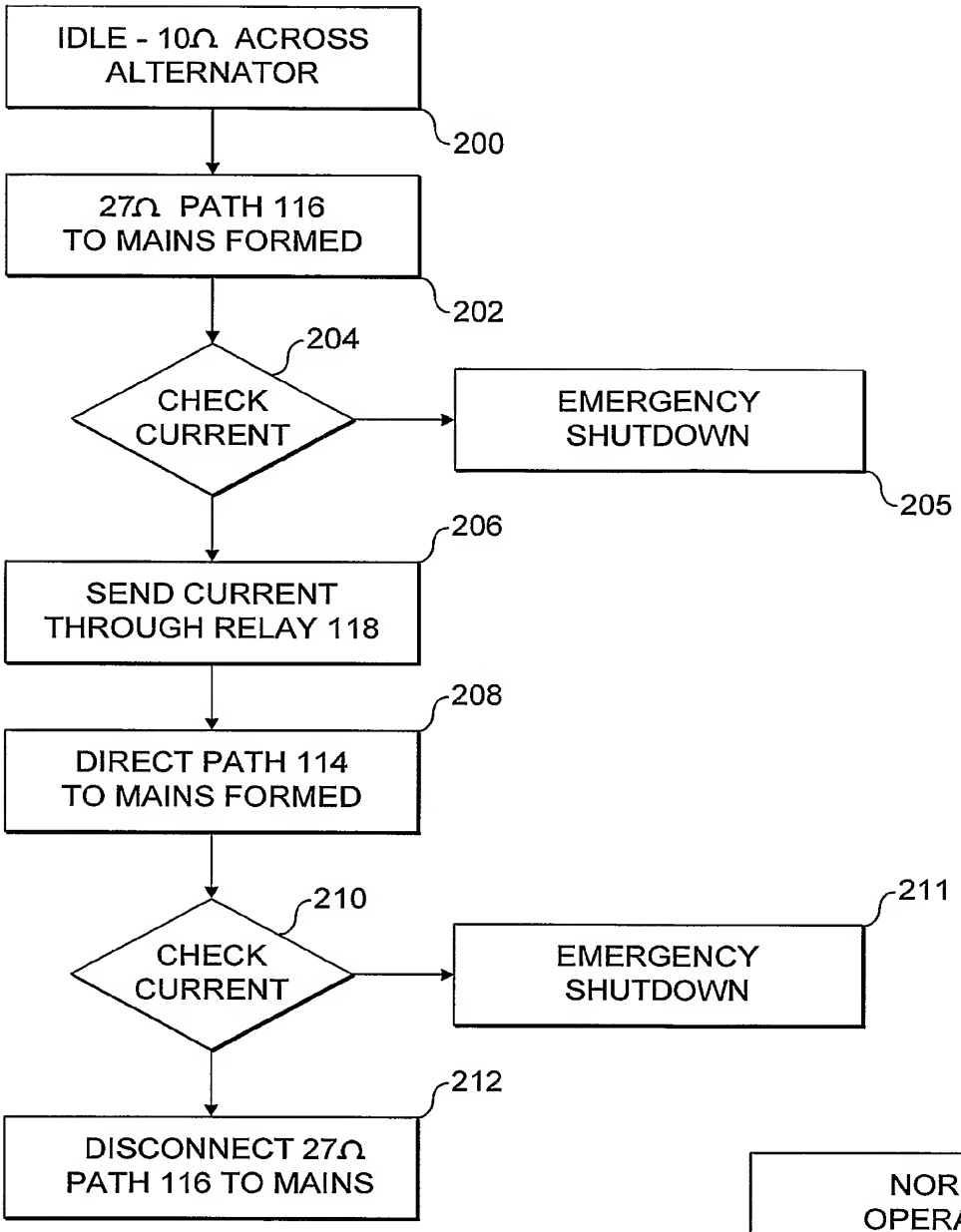
IDLE - 10Ω ACROSS ALTERNATOR
200
27Ω PATH 116 TO MAINS FORMED
202
204
CHECK CURRENT
EMERGENCY SHUTDOWN
205
206
SEND CURRENT THROUGH RELAY 118
208
DIRECT PATH 114 TO MAINS FORMED
210
CHECK CURRENT
211
EMERGENCY SHUTDOWN
212
DISCONNECT 27Ω PATH 116 TO MAINS

FIG. 10

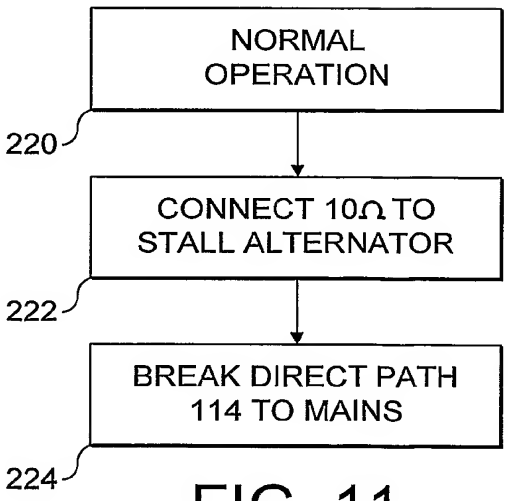
NORMAL OPERATION
220
CONNECT 10Ω TO STALL ALTERNATOR
222
BREAK DIRECT PATH 114 TO MAINS
224

FIG. 11

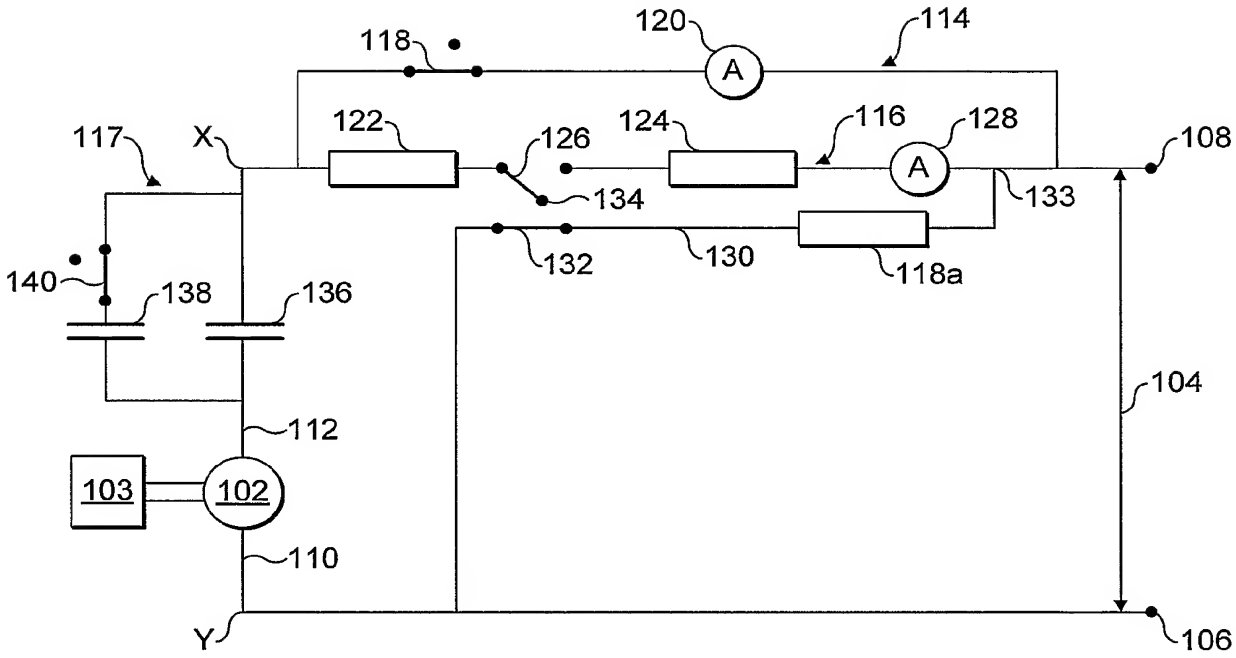
118
120
A
114
117
X
122
126
124
116
128
A
108
134
133
132
130
118a
140
138
136
104
112
103
102
110
Y
106

FIG. 12